DETAILED ACTION

1. Claims 32-48 are pending.

2. In view of the appeal brief filed on June 30, 2008, PROSECUTION IS HEREBY
   REOPENED. New grounds of rejection are set forth below.

3. To avoid abandonment of the application, appellant must exercise one of the
   following two options:

   (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply
   under 37 CFR 1.113 (if this Office action is final); or,

   (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31
   followed by an appeal brief under 37 CFR 41.37. The previously paid notice of
   appeal fee and appeal brief fee can be applied to the new appeal. If, however,
   the appeal fees set forth in 37 CFR 41.20 have been increased since they were
   previously paid, then appellant must pay the difference between the increased
   fees and the amount previously paid.

   A Supervisory Patent Examiner (SPE) has approved of reopening
   prosecution by signing below:

Allowable Subject Matter

4. Claim 48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. The applicant's arguments are moot in view of the new grounds of rejections presented in the instant office action.

Claim Objections

6. Claims 32, 34, 40, 43, and 46 recite, "a network *topography*, the polled network *typography* including..." (e.g., claim 32, line 20). Appropriate correction of the typographical error is required. Further, it is examiner's belief the applicant intended to claim network topology, not "topography" (see applicant's specification, e.g. Background Art) and will be interpreting it as such. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 32-33, 35-36, 38, 39, 40-41, 43-44, and 46-47 are rejected under 35

U.S.C. 103(a) as being unpatentable over Barnard et al (US Pub. No.

2003/0005100), hereafter "Barnard," in view of Sistanizadeh et al (US Pat.

5,790,548, cited in previous actions), hereafter "Sistanizadeh," and in further view

of the applicant's admitted prior art, hereafter "AAPA," with the citations referring

to the applicant's specification.

9.   As to claim 32, Barnard discloses a method of discovering that a particular

network node having an assigned address has been connected to a computer

network including (a) plural nodes, one of which is the particular node, and (b) a

server arrangement including a network portion and a discovery portion

(Abstract), the method comprising:

     responding to the establishment of the connection of the particular network

node to the network by transmitting an initial request from the particular node to

the network portion of the server arrangement via the network ([0074], lines 16-

21, printing device on network ("particular node") sends DHCP discover request

("initial request") to internal DHCP server ("network portion of server

arrangement"), the initial access request including the assigned address of the

particular node ([0074], DHCP discover request ("initial request") includes MAC

address ("assigned address"));

the network portion of the server arrangement responding to the initial access request by initiating a discovery request and deriving an indication of the assigned address of the particular node ([0074], lines 30-35);

the network portion supplying the discovery request and the assigned address of the particular node to the discovery portion only after the network portion has determined that the particular node is a node of the network ([0074], lines 30-35, DHCP server supplies MAC address ("assigned address") and IP address to discovery module ("discovery portion") after printing device ("particular node") has IP address and therefore has access to the network);

the discovery portion responding to the discovery request applied to the discovery portion by the network portion by storing the assigned address of the particular node ([0077], lines 5-15, the IP address is provided so that SNMP may be used to communicate between network management device and printing device ("particular node")) and initiating a discovery program that performs a discovery procedure for the particular node in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion ([0077], lines 11-22, SNMP request (a function of "a discovery procedure") is sent out which retrieves information from the printing device via its IP address);

the discovery procedure for the particular node including polling network topology, the polled network typography including other nodes to which the

particular node is connected, and the configuration of the particular node ([0077], lines 12-27).

But, Barnard may not explicitly disclose supplying the request and address of the node after the node is determined to be an *authentic* node of the network. That is, if authentic is interpreted as being more than simply be a part of the network or accessing the network, but rather requires an authentication process; Barnard does not explicitly disclose such.

However Sistanizadeh discloses supplying a discovery request and assigned address of a node only after the node has been determined to be an authenticated node of the network (column 9, line 62-column 10, line 6, computer is authenticated via its MAC address in a DHCP request, that request is then processed by the DHCP server and includes the MAC address ("assigned address").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Barnard and Sistanizadeh order to provide greater security to the discovery procedures of Barnard by the means provided for in Sistanizadeh (authentication of computers prior to giving them IP addresses).

But, Barnard and Sistanizadeh may not disclose the polling other nodes in the network to determine network topology. Rather, Barnard appears to poll nodes to determine topology a singular node at a time, subsequent to their discovery.

However, AAPA discloses a discovery procedure including polling nodes in a network to determine network topology, and the polled network topology including at least some of the other nodes to which a particular node is connected, and the configuration of the particular node (Page 1, [0002], "the Open View Network Node Manager product are designed to discover network topology (i.e., a list of all network node in a domain, their type, and their connections), monitor the health of each network node, and report problems to the network administrator... The monitoring function of such a system is usually performed by a specialized computer program which periodically polls each network element and gathers data which is indicative of the network element's health"; page 2, [004] discloses retrieval of configuration information).

Therefore, it would have been obvious to combine the teachings of Barnard and the applicant's admitted prior art (AAPA) in order to obtain a complete real-time topological representation of all nodes of the network, rather than simply polling one node at a time as disclosed in Barnard.

10. As to claim 35, Barnard discloses a method of discovering that a particular

network node having an assigned address has been connected to a computer

network including (a) plural nodes, one of which is the particular node, and (b) a

server arrangement including a network portion and a discovery portion

(Abstract), the method comprising:

responding to the establishment of the connection of the particular network

node to the network by transmitting an initial request from the particular node to

the network portion of the server arrangement via the network ([0074], lines 16-

21, printing device on network ("particular node") sends DHCP discover request

("initial request") to internal DHCP server ("network portion of server

arrangement"), the initial access request including the assigned address of the

particular node ([0074], DHCP discover request ("initial request") includes MAC

address ("assigned address"));

the network portion of the server arrangement responding to the initial access

request by initiating a discovery request and deriving an indication of the

assigned address of the particular node ([0074], lines 30-35);

the network portion supplying the discovery request and the assigned

address of the particular node to the discovery portion only after the network

portion has determined that the particular node is a node of the network ([0074],

lines 30-35, DHCP server supplies MAC address ("assigned address" and IP

address to discovery module ("discovery portion") after printing device ("particular

node") has IP address (i.e. now the printer can communicate with other devices on the network and has access to the network);

the discovery portion responding to the discovery request applied to the discovery portion by the network portion by storing the assigned address of the particular node ([0077], lines 5-15, the IP address is provided so that SNMP may be used to communicate between network management device and printing device ("particular node)) and initiating a discovery program that performs a discovery procedure for the particular node in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion ([0077], lines 11-22, SNMP request (a function of "a discovery procedure") is sent out which retrieves information from the printing device via its IP address);

the discovery procedure for the particular node including determining status information about the particular node ([0077], lines 12-27).

But, Barnard may not explicitly disclose supplying the request and address of the node after the node is determined to be an *authentic* node of the network. That is, if authentic is interpreted as being more than simply be a part of the network or accessing the network, but rather requires an authentication process; Barnard does not explicitly disclose such.

However Sistanizadeh discloses supplying a discovery request and assigned address of a node only after the node has been determined to be an authenticated node of the network (column 9, line 62-column 10, line 6, computer is authenticated via its MAC address in a DHCP request, that request is then processed by the DHCP server and includes the MAC address ("assigned address").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Barnard and Sistanizadeh order to provide greater security to the discovery procedures of Barnard by the means provided for in Sistanizadeh (authentication of computers prior to giving them IP addresses).

But, Barnard and Sistanizadeh may not disclose the polling other nodes in the network to determine network topology. Rather, Barnard appears to poll nodes to determine topology a singular node at a time, subsequent to their discovery.

However, AAPA discloses a discovery procedure including polling nodes in a network to determine network topology, and the polled network topology including at least some of the other nodes to which a particular node is connected, and the configuration of the particular node (Page 1, [002], "the Open View Network Node Manager product are designed to discover network topology

(i.e., a list of all network node in a domain, their type, and their connections),

monitor the health of each network node, and report problems to the network

administrator… The monitoring function of such a system is usually performed by

a specialized computer program which periodically polls each network element

and gathers data which is indicative of the network element's health"; page 2,

[004] discloses retrieval of configuration information).

Therefore, it would have been obvious to combine the teachings of Barnard

and the applicant's admitted prior art (AAPA) in order to obtain a complete real-

time topological representation of all nodes of the network

11. As to claims 38, 39, 40, 43, and 46, they are rejected by a similar rationale to

that set forth in claims 32 and 35's rejections.

12. As to claim 33, Barnard discloses the discovery portion receives a sequence of

discovery requests including assigned addresses of various nodes of the network

which have requested access to the network, the discovery portion storing the

assigned addresses of the received request from the various nodes ([0077], lines

12-27 and Fig. 7).

13. As to claims 36, 41, 44, and 47, they are rejected by a similar rationale to that set

forth in claim 33's rejection.

14. Claims 34, 37, 42, and 45, are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard in view Sistanizadeh and AAPA in further view of what was well known in the art as applied to claims 36, 41, 44, and 47, and in further view of what was well known in the art at the time of the invention.

15. As to claim 34, 37, 42, and 45, Barnard, Sistanizadeh, and AAPA discloses the invention substantially with regard to the parent claims 36, 41, 44, and 47, and but do not explicitly disclose the sequence of assigned addresses is stored as a stack that the discovery portion processes in first-in-first-out order. Barnard's does not go into specifics as to how the addresses are stored, just that they are.

   Although Barnard does not explicitly suggest the use of a first-in-first-out order (FIFO) stack, Official Notice is taken (MPEP 2144.01) that using a FIFO stack as a means to store data was a well-known practice at the time of the applicant's invention was made, which is deployed to more easily manage memory operations. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to take advantage of a known standard to modify the teachings Barnard in order to achieve such benefits.

Conclusion

16. A shortened statutory period for reply to this final action is set to expire THREE

    MONTHS from the mailing date of this action. In the event a first reply is filed

    within TWO MONTHS of the mailing date of this final action and the advisory

    action is not mailed until after the end of the THREE-MONTH shortened statutory

    period, then the shortened statutory period will expire on the date the advisory

    action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

    calculated from the mailing date of the advisory action. In no event, however, will

    the statutory period for reply expire later than SIX MONTHS from the date of this

    final action.

17. Any inquiry concerning this communication or earlier communications from the

    examiner should be directed to Thomas J. Dailey whose telephone number is

    571-270-1246. The examiner can normally be reached on Monday thru Friday;

    9:00am - 5:00pm.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

    supervisor, John Follansbee can be reached on 571-272-3964. The fax phone

    number for the organization where this application or proceeding is assigned is

    571-273-8300.

19. Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/T. J. D./
Examiner, Art Unit 2452

/THU NGUYEN/
Supervisory Patent Examiner, Art Unit 2452